

Amendment to 10/614,258 dated 21 July 2004

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REMARKS

This is in response to the Office Action mailed 28 April 2004.

Claims 20 and 21 have been added by this Amendment.

Claims 1 to 21 are pending.

Claims 6 and 7

The Examiner has indicated that claims 6 and 7 would be allowable but for their dependence on a rejected base claim. Claim 6 has been amended to include the features recited in original claims 1 and 3 from which it previously depended. Claim 7 depends from claim 6 and remains unchanged. Accordingly it is submitted that claims 6 and 7 are now in condition for allowance.

Claims 11 and 12

Claim 11 has been amended to depend from claim 7 and to include the features recited in original claim 9 from which it previously depended. Claim 11 has also been amended to correct the typographical error pointed out by the Examiner.

As discussed above, the Examiner has already indicated that the subject matter of claim 7 is allowable. Accordingly, it is respectfully submitted that claim 11, and claim 12 which depends therefrom, are now in condition for allowance.

Claims 13 to 18

The Examiner rejected claims 13 to 18 under 35 U.S.C. § 112, contending that these claims were incomplete and indefinite. Claims 13 to 18 have been amended to clarify the steps recited therein. Accordingly, a further evaluation of the merits of these claims is respectfully requested. As discussed below, it is submitted that these claims are now in condition for allowance.

Claims 15 and 18

Claims 15 and 18 depend from claim 6. As discussed above, the Examiner has already indicated that the subject matter of claim 6 is allowable. Accordingly, it is respectfully submitted that claims 15 and 18 are now in condition for allowance.

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Claims 1 to 5, 8 to 10, 13, 14, 16, 17 and 19

The Examiner rejected claims 1 to 5, 8 to 12 and 19 under 35 U.S.C. § 102(b), contending that these claims were anticipated by Goldstein (U.S. patent No. 5,950,736). Goldstein, as understood, discloses a method and apparatus for improving drilling efficiency wherein a traveling wave generator generates a series of ramped pressure pulses, which are applied to the drilling fluid and compressed.

Claims 1 and 19 have been amended to recite "generating high energy reduced pressure pulses". Claims 5, 8, 13, 14, 16 and 17 have been similarly amended. This feature is not disclosed or suggested by Goldstein. As shown in Figures 2, 3 and 5 of Goldstein, the ramped pressure pulses of Goldstein comprise increased pressure pulses. Furthermore, at column 3, lines 63-66, Goldstein states that "[t]he pressure pulse is preferably on the order of three hundred atmospheres above the background pressure provided by the conventional drilling fluid pump 10." Accordingly, it is respectfully submitted that claims 1 and 19, and claims 2 to 5, 8 to 10, 13, 14, 16 and 17 which depend from claim 1, are patentable over Goldstein and are now in condition for allowance.

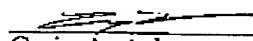
Claims 20 and 21

New claims 20 and 21 have been added. Claims 20 and 21 recite subject matter similar to that of claim 6, which the Examiner has already indicated to be allowable. The subject matter of claim 20 differs from that of claim 6 in that claim 20 recites that "operating the downhole tool comprises moving a portion of the drill string below the downhole tool which includes the drill bit relative to a portion of the drill string above the downhole tool", and does not specifically require lifting of the drill bit and compressing a spring. Claim 21 depends from claim 20 and requires "lifting the portion of the drill string below the downhole tool which includes the drill bit". It is respectfully submitted that claims 20 and 21 are in condition for allowance.

In accordance with the foregoing, it is submitted that this application is in condition for allowance, which is requested.

Respectfully submitted,

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